

not, as supposed by Messrs. Chapman and Buck, one of the Dormouse tribe.

Dr. H. Gadow gave an account of the caves which he had explored in the summer of 1886. They were situated in the province of Estremadura, in the low sierra between the villages of Athougua and Otta, the nearest town being Santarem. The geological formation was hard white-blue limestone of the Rhætic system. The caves lay only two or three hundred feet above the sea-level, and the particular one which yielded the bones was choked near the entrance with loose dry dust. About a foot below the surface of the dust was found an unpolished flint arrow-head. The cave was absolutely dry, and its horizontal bottom, extending for about 60 feet into the mountain, was covered with about two or three feet of the dust, which contained bones of small Ruminants and of Bear, besides those of the Lemmings. The Lemming-bones were found at the far end of the cave, almost on the top of the dust.

Mr. Solater opened a discussion on the Rules of Zoological Nomenclature by reading the following paper:—

Remarks on the Divergencies between the “Rules for naming Animals” of the German Zoological Society and the Stricklandian Code of Nomenclature.

Before proceeding to the immediate subject of the discussion which we propose to hold this evening, I wish to call the attention of the meeting to the new work, to be called ‘Das Tierreich,’ which has been planned by the German Zoological Society. The object of it is to give an account of all the known species of recent animals described up to the present period. The proposed work will embrace, as we are informed, the most important synonyms, references to the best figures, and an account of the geographical range added to a short description of every species. This, it must be allowed, is a gigantic undertaking well worthy of a great scientific nation, and we must all heartily wish it success. The described species of recent animals, as will be seen by the table (which has been kindly compiled for me by Dr. David Sharp, F.R.S., with the assistance of his corps of Recorders), numbers some 386,000 species¹. Supposing that we admit that on the average five

¹ *Census Specierum Animalium Viventium hucusque descriptarum*: a rough estimate of the number of described species of animals in the sections adopted in the ‘Zoological Record’:—

	Number.
1. <i>Mammalia</i>	2,500
2. <i>Aves</i>	12,500
3. <i>Reptilia</i> and <i>Batrachia</i>	4,400
4. <i>Pisces</i>	12,000
5. <i>Tunicata</i>	900
6. <i>Mollusca</i>	50,000
7. <i>Brachiopoda</i>	150
8. <i>Bryozoa</i>	1,800
Carried forward.....	84,250

species can be got into a page (which appears to be barely possible) and allow 800 pages to each volume, 96 volumes would be required to complete 'Das Tierreich.' As, however, the great firm of Friedländer and Son¹ have undertaken the publication of the work, and appear to have agreed to find the necessary funds to pay for the contributions to it, we may, I think, feel tolerably certain that the task will be undertaken, although it is probable that many of us may not live to see its completion.

The German Rules for Nomenclature (App. II. no. 10), to which I am about to direct your special attention to-night, are to be those employed by the various contributors to the 'Tierreich,' as their guide in determining the scientific names to be used in the work. It will be obvious, therefore, that for this cause they are of special importance and are well worthy of our consideration. Prof. F. E. Schulze, who has undertaken the editorship of 'Das Tierreich,' and with whom I have been in correspondence on the subject, having courteously expressed a wish that it might be possible to reconcile the differences between the German Rules and the Code of Nomenclature adopted by the British Association and usually employed in this country, I have undertaken to bring the subject before this Society.

In order to consider whether we can agree it is necessary first to ascertain the points of difference, and these are what I propose to bring forward to-night. But before doing so I will commence with a few general remarks on some of the principal codes of nomenclature that have been put forward by modern zoologists.

As we all know, I believe, the first code that adopted the "law of priority" as its principal rule and originated various other usages, to which we are now well accustomed, was that drawn up by Strickland in 1842 (Appendix II. no. 1). The Stricklandian Code, however, although generally approved and adopted, was not at that time formally sanctioned by the British Association.

In 1863 the late Sir William Jardine took up the subject, and,

¹ The contract between the Deutsche Zoologische Gesellschaft and Messrs. R. Friedländer and Son will be found printed at full length in the 'Verhandlungen' of that Society for 1895, pp. 4 *et seqq.*

	Number.
Brought forward.....	84,250
9. Crustacea	20,000
10. Arachnida	10,000
11. Myriopoda and Prototracheata	3,000
12. Insecta	250,000
13. Echinoderma	3,000
14. Vermes	6,150
15. Calenterata.....	2,000
16. Spongiae	1,500
17. Protozoa	6,100
Total	386,000

This may be compared with Dr. Günther's estimates of the described species in 1830 (73,588) and 1881 (311,653), lately published in the 'Annals & Mag. of Nat. History' (ser. 6, vol. xvii. p. 180).

in conformity with a resolution adopted by Section D of the British Association at Newcastle, reprinted the Rules (2). The Committee, of which he was Chairman, was directed to consider what changes, if any, it was desirable to make in them. Certain alterations (six in number in all) were proposed to be made by the Committee, as specified in their Report. This report (3) was finally adopted by the Association in Section D at the Bath Meeting on the 19th September, 1865. It is well to remark, however, that the six proposed alterations of the original Code, although specified at full length in the Report of the Committee, were never incorporated into the text of the Stricklandian Code.

In 1878, at the request of the General Committee¹ of the British Association, I prepared for publication a new edition of the Stricklandian Code, to which I added the Report of the Committee appointed at the Bath Meeting. This edition (4) was published for the Association by Murray of Albermarle Street, and copies of it may still be had on application at the offices of the British Association. There are some here on the table.

In 1877 the American Association for the Advancement of Science took up the question of Nomenclature and appointed Mr. W. H. Dall to investigate the subject. Mr. Dall made an excellent report, which will be found printed in the volume of the Association's Proceedings for 1878 (5).

In 1881 the Société Zoologique de France proposed a Code of Rules prepared by a Committee. These were published at Paris along with a report on the subject prepared by M. Chaper (6).

In the following year (1882) the Congrès géologique International published a set of Rules on Nomenclature (7). Both these codes were intended to apply to Zoology and Botany alike. The rules in both cases are few in number, but are accompanied by valuable commentaries. They do not materially affect the special points now in question, except in rejecting generic names previously employed either in Zoology or Botany.

The highly elaborate and precise Code of Nomenclature which was adopted by the American Ornithologists' Union in 1886, and was published along with the first edition of the 'Check-list of North American Birds' (8), although generally based upon the Stricklandian Rules, deviates from them in several material particulars. The most important of these is, the proposal to commence Zoological Nomenclature with the tenth edition of the 'Systema Naturæ' (1758) instead of the twelfth (1766). The operation of this rule, which will be again alluded to presently, has, as is well known, caused very serious differences in the names applied to the same birds by the English and American ornithologists. The American Code of Nomenclature is also in conflict with us upon the two other points which are proposed for special discussion this evening.

In 1891 the 'Allgemeine Deutsche Ornithologische Gesellschaft zu Berlin' put forward their Code of Zoological Nomenclature, which was adopted at their General Meeting at Frankfort a. Main

¹ See 'Report of the British Association,' 1865, p. 25.

in May of that year (9). These Rules follow the American Rules very nearly, especially as regards the three points which are proposed for special discussion this evening.

In 1892 the International Congress of Zoology at their Moscow Meeting adopted a set of Rules of Nomenclature, which appear to differ little in effect from those of the Société Zoologique de France. These Rules (11) were separately published at Paris in 1895.

We now come to the Rules adopted by the Deutsche Zoologische Gesellschaft in 1894 (10), which are of special importance for reasons that I have already pointed out, and to some of which, as being in direct conflict with those of the Stricklandian Code, I wish to call your special attention this evening. In order to render them more easy of access upon the present occasion I have translated and printed the text of the Rules themselves (see Appendix I., p. 316), though I have not thought it necessary to add to each rule the commentaries and explanations which are appended to them, in smaller type, in the original. On reading them through it will be seen that these rules in many particulars conform to the excellent system originally put forward by Strickland and now generally adopted by zoologists all over the world. The usual sequence of divisions of animals into Orders, Families, Subfamilies, Genera, and Species is recognized. The families are to be formed ending in *-idae*, and the subfamilies in *-inae*, and though priority is strictly enforced, corrections in orthography are not only permitted but approved of. In fact there seem to be only three principal points in which the Code of the German Zoological Society differs from ours, and it is to these three points to which I now propose to call your attention, after which I will say a few words on two or three points of minor importance.

1. The German Rules (Sect. 1) disclaim any relation to Botany so that, according to them, the same generic names may be used in Zoology and Botany. This is contrary to the Stricklandian Code (Sect. 10).

It is quite certain that the Stricklandian Code did not allow the same name to be employed for a genus in Zoology and in Botany. But in the British Association revision of 1863, amongst the six alterations proposed to be made in that Code was one "that Botany should not be introduced into the Stricklandian Rules and Recommendations." This, however, I do not take to mean that the Rule alluded to is to be repealed, but merely that the Rules as a whole were intended for Zoologists and not for Botanists. But in the American Code (see Principle IV.) the contrary view was taken and it was enacted that the "use of a name in Botany does not prevent its subsequent use in Zoology." We will take a salient example on this point. The Swifts until recently have been universally called by ornithologists *Cypselus*, and the family to which they belong *Cypselidae*. *Micropus* of Meyer and Wolf, which has one year's precedence over *Cypselus*, has been passed over, because *Micropus* is an old Linnean term for a genus of plants. In accordance with their Rules the American

ornithologists have recently rejected the name *Cypselus* in favour of *Micropus* and renamed the family *Micropodidae* accordingly.

While I quite agree that it is not necessary that zoologists and botanists should use exactly the same Code of Nomenclature, for in many respects their practices have long been different, I think it would be a great evil to allow Animals and Plants to be called by the same names, as in some cases it would not be *prima facie* apparent whether a particular term was intended to refer to an animal or a plant. Besides this, we know that in some of the lower forms it is by no means easy to decide whether certain species should be referred to the animal or to the vegetable kingdom. Strickland was very decided upon this subject, and I see no reason at all why we should deviate from his practice, which up to a recent period has been generally followed by zoologists.

2. Under Sect. 5 of the German Rules the same term is to be used for the generic and specific name of a species, if these names have priority. This is contrary to the Stricklandian Code (Sect. 13).

In the original Stricklandian Code (Section 13) it is enacted that "a new specific name must be given to a species when its old name has been adopted for a genus which includes that species." In the British Association revision of the Code (Recommendation IV.) it was proposed to reverse this Rule, and to throw aside the generic in order to retain the specific name. It was the American Ornithologists' Code, I believe (Canon XXX.), which first formally proposed that specific names, when adopted as generic, should not be changed, and this Rule has now been adopted in both the German Codes.

It should be remarked that the proposal of the B. A. revision to alter the generic name in these cases, instead of the specific, has hardly met with acceptance in any quarter. In Mr. Dall's report upon this subject (5) he well observes:—

"This innovation, the sweeping character of which the Committee cannot have realized, if carried into effect, would uproot hundreds of the generic names best known to science, and so familiar that the fact that they were originally specific names has been almost totally forgotten. Its spirit is opposed to the fundamental principles of nomenclature, and the end to be gained is of the most trivial character."

Although I was a Member of the Bath Committee that agreed to this Recommendation, I must confess that I am strongly opposed to it, and have always followed the opposite course enacted by the original Stricklandian Code, that in these cases the specific name is the one to be changed. Moreover, this last practice has, until recently, been generally adopted by English zoologists. Of late years, however, the "*Scomber-scomber*" principle, as it is familiarly called¹, has met with many supporters. Though inelegant and almost ridiculous, it has, at least, one merit. It

¹ "*Scomber scomber*" (Linn. S. N. ed. xii. p. 492) seems to be the only instance in which Linnæus used the same generic and specific name for a species. But it is doubtful whether this was not really a printer's error, for in the tenth edition (p. 297) he wrote *Scomber scombrus*, and on referring to the two copies of the twelfth edition, formerly belonging to Linnæus himself, and

enables us to retain the original (often Linnean) name, for which there is in many cases great difficulty in finding a substitute that all will agree upon. Moreover, the usage of the same generic and specific term in such cases has now met with extensive acceptance on the Continent. At the same time it is only right to call attention to the formidable changes which the acceptance of the tautonymic principle would cause in the names of some of our most familiar animals. In order to show this clearly I give a list of 25 species of well-known English birds for which we should require a change of names if tautonyms are accepted¹.

3. The German Rules (Sect. 7) adopt the 10th edition of the 'Systema Naturæ' (1758) as the starting-point of Zoological Nomenclature, whereas the Stricklandian Code (Sect. 2) adopts the 12th (1766).

The question of the proper edition of Linnæus's 'Systema Naturæ' to be adopted as the starting-point of the binary system of Nomenclature appears to be the most difficult of the three principal questions now before us to settle satisfactorily, and to involve the most serious consequences. It seems to me reasonable, on a *prima facie* view, that Linnæus, having been the inventor and founder of the binary system of Nomenclature, should be allowed the credit and the privilege of completing his own work in the manner he thought best. By adopting the twelfth edition of the 'Systema

¹ List of Names of British Birds affected by the tautonymic principle.

B. O. U. List.	Page	Tautonymic names.
<i>Sylvia cinerea</i>	11.	<i>Sylvia sylvia</i> .
<i>Regulus cristatus</i>	14.	<i>Regulus regulus</i> .
<i>Hypolais icterina</i>	17.	<i>Hypolais hypolais</i> .
<i>Cinclus melanogaster</i>	24.	<i>Cinclus cinclus</i> .
<i>Troglodytes parvulus</i>	29.	<i>Troglodytes troglodytes</i> .
<i>Carduelis elegans</i>	47.	<i>Carduelis carduelis</i> .
<i>Serinus hortulanus</i>	49.	<i>Serinus serinus</i> .
<i>Coccothraustes vulgaris</i>	50.	<i>Coccothraustes coccothraustes</i> .
<i>Pyrrhonorax graculus</i>	66.	<i>Pyrrhonorax pyrrhonorax</i> .
<i>Pica rustica</i>	68.	<i>Pica pica</i> .
<i>Scops giu</i>	89.	<i>Scops scops</i> .
<i>Bubo ignavus</i>	90.	<i>Bubo bubo</i> .
<i>Buteo vulgaris</i>	94.	<i>Buteo buteo</i> .
<i>Tinnunculus alaudarius</i>	104.	<i>Tinnunculus tinnunculus</i> .
<i>Fuligula cristata</i>	129.	<i>Fuligula fuligula</i> .
<i>Turtur communis</i>	139.	<i>Turtur turtur</i> .
<i>Perdix cinerea</i>	142.	<i>Perdix perdix</i> .
<i>Coturnix communis</i>	143.	<i>Coturnix coturnix</i> .
<i>Lagopus mutus</i>	144.	<i>Lagopus lagopus</i> .
<i>Tetrao tetrix</i>	145.	<i>Tetrao tetrao</i> .
<i>Porzana maruetta</i>	147.	<i>Porzana porzana</i> .
<i>Crex pratensis</i>	149.	<i>Crex crex</i> .
<i>Grus communis</i>	152.	<i>Grus grus</i> .
<i>Edicnemus scolopax</i>	155.	<i>Edicnemus edicnemus</i> .
<i>Vanellus vulgaris</i>	161.	<i>Vanellus vanellus</i> .

now in the Library of the Linnean Society, it will be found that the second *scomber* is altered, apparently in Linnæus's own handwriting, into *scombrus* (see note on this subject, 'Ibis,' 1895, p. 168). Instead of the *Scomber-scomber* principle it would be better to call it the "tautonymic principle," and names formed upon this principle *tautonyms*.

Naturæ' as our starting-point (as is enacted in the Stricklandian Code) we allow Linnæus this privilege. If we take the tenth edition, as proposed by the American ornithologists, and now adopted in the two German Codes, we deny him the right of correcting his own work, which, under the circumstances, appears to be obviously unfair and injudicious. For it is unquestionably the case that Linnæus altered some of his names in his last and most perfect edition of 1766-68, and added others to his list. If we acknowledge the authority of the authors who wrote between 1758 and 1766 we shall have to change some of Linnæus's best-known names. For example, the Horned Screamer of South America has been universally known to ornithologists as *Palamedea cornuta*, as named by Linnæus in the twelfth edition of the 'Systema,' the genus having been omitted in the tenth edition. In the meanwhile, however, Brisson in 1762 (Orn. v. p. 518) had used "*Anhima*" of Marcgrave as its generic name, and Mr. Stejneger has accordingly proposed to call the Horned Screamer *Anhima cornuta* (Stand. Nat. Hist. iv. p. 135). If this alteration be adopted, the names of the family *Palamedeidae* and of the suborder *Palamedee* will likewise have to be changed.

I will take another example of the inconvenience of allowing Linnæus's names to be superseded. The Common Darter of Central and South America is the *Plotus ankinga* of Linnæus's twelfth edition and is almost universally known under this name, which also gives its name to the family *Plotidae*. Unfortunately, Brisson in the interval between the two editions of the 'Systema' proposed the generic term *Ankinga* for the same bird, and the American Check-list consequently proceeds to call the Darter "*Ankinga ankinga*," and the family "*Ankingidae*." It must be admitted that both these alterations, which are consequent upon the adoption of 1758 as the commencement of binary nomenclature in place of 1766, as well as many other changes of the same character which I need not now cite, are matters of considerable importance. Strickland, the founder of our modern Codes of Nomenclature, after deliberately considering the point, adopted the latest and most perfect edition of the 'Systema Naturæ' as his starting-point. I think we should do unwisely to deviate from Strickland's views on this subject. It is true that Strickland proposed to allow such of Brisson's names as were *additional* to those of the twelfth edition of the 'Systema Naturæ' to be retained, but he certainly did not contemplate the supersession of any of Linnæus's names by those of Brisson or of any other authority. On the ground of priority, therefore, I claim that, as first decided by Strickland, we ought to adopt the twelfth and most perfect edition of the 'Systema Naturæ' as the basis of modern Nomenclature. Even if we adopt the tenth edition as our starting-point, a special proviso should be made that none of the names contained in the twelfth edition should be allowed to be disturbed.

There are two or three less important points in Zoological Nomenclature upon which I wish to add a few words.

(1) The German Code, which we are now principally considering

(Canon X.), enacts that the name of the author, if given, should follow the scientific name without any intervening sign. The prevailing practice in this country has been to place a comma after the specific name and before the authority. But on this subject, I must say, I think that the German Code has good reason on its side. When, for example, we write *Turdus viscivorus*, Linn., we mean in fact *Turdus viscivorus Linnæi*—that is, the *Turdus viscivorus* of Linnaeus, *Linnæi* being in the genitive case after the nominative *Turdus viscivorus*. If this view, which, no doubt, is the correct one, is taken, it is obvious that no comma is required between the nominative and the genitive which follows it. The adoption of this reform would save a great many thousand commas in our zoological works. When the author's name refers only to the specific and not to the generic term, both English and German Codes agree that the author's name should be enclosed in parentheses.

I must remind you, however, that the invariable addition of an author's name to a scientific name is a modern practice, and in many cases wholly unnecessary. It converts a binary system into a trinary one. In familiar names, such as *Turdus viscivorus*, for example, it is obviously quite unnecessary to add any authority to such a well-known term.

(2) Another point on which I am glad to be able to agree with the German Code is that (see Canon V.) it permits orthographical corrections "when the word is, without doubt, wrongly written or incorrectly transcribed." The American rule upon this subject (Canon XXXI.), and still more the American practice, is, in my opinion, simply perverse. The rule enacts that "neither generic nor specific names are to be rejected for faulty construction, inapplicability of meaning, or erroneous signification." They therefore contemplate, and not only contemplate but insist upon, the surrender of the plainest rules of grammar to the principle of priority. We have only to turn over the pages of the 'Check-list' to find abundant illustrations of this deformity. *Estrelata* is written *Æstrelata*, although it is probable that Bonaparte, who was a good classical scholar, only spelt it this way by a slip of his pen: *Aithya* is spelt *Aythya*, although we know, from its obvious Greek equivalent, that this is wrong: *Heniconetta* is used without the *H*, although the Greek word from which it is derived, carried an initial aspirate: *Pediocetes* is written *Pediocates*, as originally misspelt by Baird, although there can be no doubt that he meant by it an inhabitant (*οικητής*) of the plain (*πεδίον*). We will not multiply examples of these errors, but need only remark that no one with a pretence to a classical education is likely to submit to the causeless infliction of such barbarisms.

The German Code is quite on our side in this instance and not only permits such corrections but gives excellent examples (see explanation to Sect. V.) of the proper way in which they should be carried out.

Whether corrections of obvious misstatements of fact, and the consequent rejection of certain names, should be allowed is another question. To me it seems absurd to call an American bird *Bucco*

capensis, and a Tortoise not found in Chili *Testudo chilensis*. I have consequently refused to use such names, preferring accuracy to priority. But the American Code, it is quite clear, does not permit such alterations, and I fear that the German Code under the explanations of Sect. V. is against my views upon this point. On this subject, however, the original Stricklandian Code (see explanations to Sect. X.) clearly rules in my favour.

(3) There is one point which seems not to have been touched upon in any of the Rules hitherto promulgated. It is the last to which I shall call your attention this evening. That is, the expediency of rejecting ambiguous specific names in certain instances. An example of such a case will best explain my meaning. I will take a well-known one, but there are many like it. *Lepus timidus* of Linnæus was probably intended by the learned Swede as the epithet of the Mountain or Variable Hare of Northern Europe. It has, however, until recently, been almost universally applied to the common lowland species, *Lepus europæus* of Pallas¹. Recent authors having discovered the error have proposed to re-impose the name of *Lepus timidus* upon the Northern species=*Lepus variabilis*, Pallas. I maintain, however, that, under the circumstances that have happened, *Lepus timidus* can no longer be used as a name at all. It is perfectly useless as a specific designation, because when *Lepus timidus* is spoken of (whether 'Linn.' be added to it or not) nobody can tell without further information whether it is intended to indicate *Lepus variabilis* or *Lepus europæus*. Under such circumstances the specific term *timidus* ought to be considered as "void for ambiguity" and the next given name "*variabilis*" of Pallas employed in its place. There are many other cases of the same sort, but of course such rejections should be sanctioned only in extreme cases, when it is certain that the retention of the older name will lead to confusion.

The Canon that I should suggest on this subject would be something as follows:—

Specific names which have been applied habitually to one species but can be proved to be properly applicable to another may be superseded by the next oldest applicable term in both cases.

Before concluding this address I will say a few words as to my views on the vexed subjects of trinomials. That subspecies actually exist in nature cannot, I think, be denied by anybody who believes in the origin of species by descent. Nearly all forms of animal life, which have a wide distribution, show differences when individuals from the two extremes of the range of the species are compared. These differences are in many cases united by intermediate forms which occur in the more central portion of the range. "Subspecies" appears to me to be an excellent term to designate the slight differences exhibited in these cases, far better than "climatic" or "geographical" variety, which is often used for them. We are thus enabled to retain "variety" for abnormal variations from the typical form (such as albinisms &c.) which occur without

¹ "See Bell's 'British Quadrupeds,' p. 331 (1884); Blasius, Wirbelth. Europ. p. 412 (1857).

reference to locality. The students of geographical variation in America, particularly those of Mammals and Birds, may have gone a little into the extreme in recognizing subspecies, but there can be no question that the phenomenon occurs, and is well worthy of record under a name of some sort. The British forms of the Coal-Tit and the Marsh-Tit, which have been named *Parus britannicus* and *Parus dresseri*, appear to me to be good instances of subspecies. I should propose to call them *Parus ater britannicus* and *Parus palustris dresseri*, while the corresponding forms of the continent should be termed *Parus ater typicus* and *Parus palustris typicus* when they are spoken of in the restricted sense only. In ordinary cases, however, it is sufficient to say *Parus ater* and *Parus palustris* without any reference to the subspecies. To give these slight and in some cases barely recognizable variations the same rank as is awarded to *Turdus musicus* and *Turdus viscivorus* seems to me to be highly undesirable, and the recognition of subspecies indicated by trinomials gives us an easy way out of the difficulty.

Finally I may be permitted to say that in questions of priority, as in everything else, it is the extreme men that lead us into difficulties, and that have made the very mention of "priority" distasteful to some of our best workers in Zoology. Some ardent spirits seem to take a pleasure in inventing excuses for alterations in the best and most long-established names without considering, and without even caring, whether subsequent writers will consent to follow them. More moderate systematists are wise enough to let names remain as they are, unless there is an absolute necessity for making a change. In the case of many of the names of the older authors, which we are invited to associate sometimes with one species and sometimes with another, it is often simply a matter of opinion or, I may say, conjecture as to which out of half-a-dozen species they were intended to refer. *Accipiter korshun* of S. G. Gmelin is a noted instance of this sort. It was first resurrectionized in 1874 by Dr. Sharpe as the proper name of the Black Kite. Other authors have referred it to the Golden Eagle, and even, I believe, to one of the Owls. Surely it is better to consign such an indefinite term as this to the limbo of unrecognizable synonyms. In reviving the name *Anser fabalis* for the Bean-Goose—a term which has slept in peace ever since it was invented by Latham in 1785—we must allow that one of our leading ornithologists had better grounds to go upon. There can be no question that Latham translated the name of "Bean-Goose" into Latin as "*Anser fabalis*." At the same time there can be little doubt that he did not consider that in doing this he was inventing a new specific term for that well-known bird, which, like everybody else for the last 110 years, he continued to call *Anser segetum*. It is surely sufficient to quote such uncertain names amongst our synonyms without adopting them as definite designations of familiar species. It is, I repeat, the extremist and the sensationalist, who strive to astonish us by carrying out the law of priority to its "bitter end," that have caused the disgust which many of us feel at the mere mention of priority in nomenclature.

APPENDIX I.

Rules for the Scientific Naming of Animals, compiled by the German Zoological Society.

A. GENERAL RULES.

1. Zoological Nomenclature includes extinct as well as recent animals, but has no relation to botanical names.

2. Only such scientific names can be accepted as are published in print, in connection with a clear description either by words or figures.

3. Scientific names must be in Latin.

4. Names of the same origin and only differing from each other in the way they are written are to be considered identical.

5. Alterations in names otherwise valid are only permitted in accordance with the requirements of Sections 13 and 22, and further for the purpose of purely orthographical correction when the word is without doubt wrongly written or incorrectly transcribed. Such alterations do not affect the authorship of the name.

6. Of the various permissible names for the same conception only the one first published is valid (Law of Priority).

7. The application of the Law of Priority begins with the tenth edition of Linnæus's 'Systema Naturæ' (1758).

8. When by subsequent authors a systematic conception is extended or reduced, the original name is nevertheless to be regarded as permissible.

9. The author of a scientific name is he who has first proposed it in a permissible form. If the author's name is not known, the title of the publication must take its place.

10. If the name of the author is given it should follow the scientific name without intervening sign. In all cases in which a second author's name is used a comma should be placed before it.

11. Class (*classis*), Order (*ordo*), Family (*familia*), Genus (*genus*), and Species (*species*) are conceptions descending in rank one after the other, and are to be taken in the order here given. These terms should not be employed in a contrary or capricious relation or order.

B. RULES FOR DESIGNATING SPECIES.

12. Every species should be designated by one generic and one specific name (Binary Nomenclature).

13. The specific name, which should be treated always as one word, should depend grammatically upon the generic name.

14. The same specific name can only be used once in the same genus.

15. In the case of a species being subdivided, the original name is to be retained for the species which contains the form originally described. In doubtful cases the decision of the author who makes the separation shall be followed.

16. When various names are proposed for the same species nearly

at the same date, so that the priority cannot be ascertained, the decision of the first author that points out the synonymy should be followed.

17. In the case of species with a cycle of generation of different forms, the specific term must be taken from an adult form capable of reproduction. In these cases, as also in species in which Polymorphy occurs, the Law of Priority must be observed.

18. The author of the specific name is the author of the species.

19. The author's name should be placed in parentheses when the original generic name is replaced by another.

20. Hybrids should be designated either by a horizontal cross between the parents' names, or by these names being placed one above the other with a line between. The parents' sexes should be stated, when known. The name of the describer of the hybrid should be added, preceded by a comma.

C. RULES FOR THE NAMES OF SUBSPECIES AND OTHER DIVERGENCES FROM TYPICAL SPECIES OR SUBSPECIES.

21. When constant local forms, varieties, strains, &c. require special names, these names should be placed after the specific name. The rules for such names are the same as those for specific names.

D. RULES FOR GENERIC NAMES.

22. Names of genera should be substantives, and of the singular number. They should be one word and be written with a large initial letter. If a subgenus is used, its name (which follows the same rules as a generic name) should be given in parentheses after the generic name.

23. A generic name is only valid when a known or a sufficiently characterized species (or several species) is referred to it, or when a sufficient diagnosis of it is given.

24. The same generic name can only be employed once in Zoology. Nor can names already proposed as subgeneric be employed also as generic names in another sense.

25. When several generic names are proposed for a genus at nearly the same date, so that their priority cannot be settled, the name for which a type-species is given is to be preferred. In all uncertain cases the decision of the author who first arranges the synonymy is to be followed.

26. When a genus is separated into several genera the old name must be retained for the type-species. If this cannot be positively ascertained, the author who splits up the genus must select one of the species originally in the genus as the type. When a subgenus is raised to generic rank the subgeneric name becomes the generic name.

E. RULES FOR THE NAMES OF THE HIGHER SYSTEMATIC GROUPS.

27. Names for higher systematic groups of animals must have a plural termination.

28. Names of Families and Subfamilies must henceforth be taken from the name of one of the genera belonging to the group, and formed from the stem of that name, with the addition of *-idæ* (plural of *-ides* [Gr. *-ειδης*], masc.) for the Families and *-inæ* (fem.) for the Subfamilies.

APPENDIX II.

Titles of the principal Modern Codes of Zoological Nomenclature.

1. Report of a Committee appointed to consider the Rules by which the Nomenclature of Zoology may be established on a uniform and permanent basis. *London*, 1842. [Rep. Brit. Assoc. Adv. Sci. 1842, pt. 1, p. 105 (1843), also printed separately.]
2. Rules for Zoological Nomenclature by the late Hugh E. Strickland, M.A., F.R.S., authorized by Section D of British Association at Manchester, 1842. Reprinted by Requisition of Section D at Newcastle, 1863. *Edinburgh*, 1863.
3. Report of a Committee "appointed to report on the changes which they may consider desirable to make, if any, in the Rules of Zoological Nomenclature drawn up by Mr. H. E. Strickland, at the instance of the British Association at their Meeting in Manchester in 1842." *London*, 1866. [Rep. Brit. Assoc. Adv. Sci. 1865, pt. 1, p. 25 (1866).]
4. Rules for Zoological Nomenclature drawn up by the late H. E. Strickland, M.A., F.R.S. (assisted by many Zoologists, British and Foreign), at the instance of the British Association. [New edition with preface by P. L. Slater.] *London*, 1878.
5. Report of the Committee on Zoological Nomenclature to Section B, of the American Association for the Advancement of Science, at the Nashville Meeting, August 31, 1877. [Proc. Amer. Assoc. Adv. Sci. 1877, p. 7 (1878).]
6. Société Zoologique de France. De la Nomenclature des Êtres organisés. Règles applicables à la Nomenclature des Êtres organisés proposées par la Société Zoologique de France. *Paris*, 1881.
7. Règles à suivre pour établir la Nomenclature des espèces. Rapport du Secrétaire de la Commission H. Douvillé. Congrès géologique International. Compte Rendu de la 2^{me} Session, Bologne, 1881. *Bologne*, 1882.
8. The Code of Nomenclature and Check-list of North American Birds, adopted by the American Ornithologists' Union. *New York*, 1886.
9. Regeln für die zoologische Nomenclatur. Angenommen von der Allgemeinen Deutschen Ornithologischen Gesellschaft zu Berlin auf der XVI. Jahresversammlung in Frankfurt a. M. am 12. und 13. Mai, 1891. [J. f. O. 1891, p. 315; also published separately.]
10. Regeln für die wissenschaftliche Benennung der Thiere

zusammengestellt von der Deutschen Zoologischen Gesellschaft. *Leipzig*, 1894.

11. Règles de la Nomenclature des Êtres organisés adoptées par les Congrès Internationaux de Zoologie (Paris, 1889; Moscou, 1892). *Paris*, 1895.

A communication was read from Graf Hans von Berlepsch, C.M.Z.S., expressing his regret at not being able to be present on this occasion, and giving his opinion on the three points specially discussed. He was not disinclined to give way on the first, but maintained the necessity of the second and third alterations proposed in the German Rules.

THE PRESIDENT (Sir William Flower) said that the question of nomenclature was a most important one in the study of Natural History. The existing confusion was caused, not only by the absence of definite and universally accepted rules, but also by divergences in the mode of interpretation of such rules as were accepted—divergences which he feared would always exist, however theoretically perfect the rules may be made. He allowed that the tautonymic principle, unfortunate as it was in many respects, was the logical outcome of the system of priority, the basis of the Stricklandian and all other Codes. The evil arose from the use of specific names in a generic sense, a practice which never ought to have been permitted. With the various Codes now before us it was sometimes difficult to discriminate between regulations for the introduction of new names, and those applying to the treatment of names already in use—two objects which must be kept apart. In the former case we could not be too strict, but in the latter Sir William Flower contended that there should be some latitude allowed in favour of universal usage, and he objected to the supersession of a name known to the whole scientific world by one which had been buried and forgotten almost as soon as it was called into existence. For instance, he did not like the revival of *Anser fabalis* for the well-known *A. segetum*, nor of the genus *Procapra* for *Hyrax*. With regard to the 10th or 12th edition of the 'Systema Naturæ' for a starting-point, he had always preferred the British Association ruling in favour of the latter, but it was evident that the former was gaining ground, and would probably be eventually adopted. In conclusion, although he said he was glad that Mr. Sclater had introduced the subject, as a discussion like this must help to clear up our ideas upon it, he was not very hopeful of an absolute agreement ever being arrived at.

MR. HARTERT said that the Code of the German Zoological Society was almost the same as that of the German Ornithological Society. With regard to names used in Botany and Zoology, he considered that from a practical standpoint it would be almost impossible to create a name if the same rules applied to both, because it would necessitate a search through botanical as well as zoological literature before a name could be settled upon. He therefore thought Botany should be ignored, for mistakes as to whether a name was